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## MISSOURI DEPARTMENT OF TRANSPORTATION MATERIALS ENGINEERING Jefferson City, Missouri

# Test Method MoDOT T27 DETERMINATION OF CALCIUM OXIDE AND MAGNESIUM OXIDE IN HYDRATED LIME

#### 1. SCOPE

This method describes a procedure for determining the Non-Volatile content of Hydrated Lime, and the percentages of Calcium Oxide and Magnesium Oxide in that Non-Volatile.

#### 2. REAGENTS AND APPARATUS

- (a) Platinum Crucible, 20-30 ml volume, with cover
- (b) Reagents and Apparatus as described in Test Method MoDOT T26

#### 3. PROCEDURE FOR NON VOLATILE

Weigh, to the nearest 0.1 mg, 1 gm of the sample, and transfer to a tarred platinum crucible. Cover the crucible and place in an electric muffle furnace. Bring the furnace to a temperature of 1100-1150°C, and maintain at that temperature for ca 15 minutes. Cool the crucible and residue in a dessicator, and weigh to the nearest 0.1 mg.

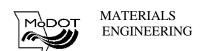
#### 4. CALCULATIONS

Calculate the Non-Volatile as follows:

% Non-= (Weight of Crucible & Residue) - Wt. of Crucible X 100 Volatile Weight of Sample

#### 5. PROCEDURE FOR CALCIUM OXIDE AND MAGNESIUM OXIDE

Determine the Calcium and Magnesium in the Hydrated Lime by the procedure described in Test Method MoDOT T26.



### 6. CALCULATIONS

Make the following calculations:

$$\% CaO = \underline{Tca \ X \ Fca}$$

$$\% \ Non-Volatile$$

$$X \ 100$$

Report as:

% Calcium Oxide (CaO), based on Non-Volatile

$$MgO = \underbrace{(Tmg - Tca - K) \ X \ Fmg}_{\text{$\%$ Non-Volatile}} X 100$$

Report as:

% Magnesium Oxide (MgO), based on Non-Volatile

